

U.S. FISH AND WILDLIFE SERVICE, DEPARTMENT OF THE INTERIOR

SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

PROPOSAL TO ESTABLISH OPERATIONAL GENERAL SWAN HUNTING  
SEASONS IN THE PACIFIC FLYWAY

I. PURPOSE AND NEED FOR ACTION

A. PURPOSE AND NEED FOR ACTION

The purpose of this proposed action is to establish regulatory options and management directions for Trumpeter (*Cygnus buccinator*) and Tundra (*C. columbianus*) swans based on the past five years of experience with limited Trumpeter swan hunting in the Pacific Flyway. A legal season permitting the take of a limited number of Trumpeter swans in the Pacific Flyway was instituted in 1995. This limited take was authorized in an attempt to reconcile conflicting strategies for managing two swan species in the Pacific Flyway. The conflicting strategies are: (1) to enhance the winter range distribution of the less abundant Rocky Mountain Population (RMP) of Trumpeter swans by severely restricting or eliminating swan hunting in portions of the Pacific Flyway currently open to hunting these species, and (2) to optimize hunting of the more numerous and widely distributed Western Population (WP) of Tundra swans in the Pacific Flyway by not further restricting hunting seasons to benefit the range distribution of Trumpeter swans. The U.S. Fish and Wildlife Service (Service) issued a finding of no significant impact in August of 1995 with regard to the Environmental Assessment: Proposal to establish general swan hunting seasons in parts of the Pacific Flyway for the 1995-99 seasons (Bartonek et al. 1995). This Environmental Assessment proposed a balance between these two competing strategies by establishing, for a trial period, a general swan season in portions of Montana, Utah, and Nevada that allowed the taking of any species of swan (*Cygnus* sp.) subject to: (1) a limited, but biologically acceptable, quota on the take of Trumpeter swans, and (2) modification of the already limited take and restricted seasons on Tundra swans to enhance the likelihood that Trumpeter swans would be successful in expanding their winter range, and (3) a program to monitor the effectiveness of this action. The trial period ended at the close of the 1999-2000 swan hunting season as established in Federal Frameworks. This supplemental Environmental Assessment is intended to examine possible courses of action for future swan hunting seasons in the Pacific Flyway.

The Service has publicly supported the goals, objectives, and management strategies identified in the various Flyway management plans for both Tundra and Trumpeter swans (Hartwig 1989). It has encouraged cooperative, multi-State-sponsored, Flyway Council-endorsed projects for restoring migratory flocks of Trumpeter swans within their historic

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range and has supported Flyway Council-endorsed hunting seasons on Tundra swans within prescribed guidelines that meet overall objectives for all swan populations.

The Service has recognized that some Trumpeter swans would be killed by vandals outside of established hunting seasons and others would be killed by hunters accidentally and incidental to regulated hunting seasons. Such accidental hunting losses are likely to remain proportional to size and distribution of Trumpeter swan populations. The Service believes that ongoing or new hunting programs, whether for Tundra swans or other waterfowl, should be neither curtailed nor prohibited because of the chance-killing of a Trumpeter swan. Conversely, Tundra swan hunting should be restricted or not permitted at times of the season or in places where it would irreparably affect the status of a particular population of Trumpeter swans.

As policy (Hartwig 1989), the Service supports the concept of Flyway management of waterfowl and gives strong consideration for Flyway Council-endorsed programs and recommendations. Therefore, the Flyway Councils have been urged to carefully examine impacts of waterfowl hunting programs on Trumpeter swan restoration efforts and vice versa and resolve conflicts early-on before making recommendations to the Service. Also, the Service will and must give consideration to the broad interests of all of the public in management of its migratory bird resources. When there are irreconcilable differences among States, between Flyway Councils, and within the public regarding appropriate management for Trumpeter and Tundra swans, the Service policy will be to deal with such issues on a case-by-case basis.

A review of the biological information from the five-year experimental period has recently been completed (Trost et al. 2000:Appendix A). This review provides a summary of population, harvest and management activities from the experimental period defined in the original Environmental Assessment: Proposal to establish general swan hunting seasons in parts of the Pacific Flyway for the 1995-99 seasons.

### **B. SCOPE OF THE ENVIRONMENTAL ASSESSMENT**

The geographic scope of the swan resource affected by this proposed action includes RMP Trumpeter swans, WP Tundra swans, and potentially feral mute swans (*C. olor*) should they occur in a hunt area. The geographic scope includes portions of the States of Montana (only the Pacific Flyway portion), Utah, and Nevada where swans would be hunted. States of the Pacific Flyway within the potential range of RMP Trumpeter swans (Appendix A:Fig. 1) would be included in potential management actions designed to enhance the status and distribution of this species.

The temporal scope of this proposed action is permanent in Montana and Nevada, but for a new three-year experimental term in Utah. This proposed action would be for the implementation of an operational approach to harvest management of swans in the Pacific

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Flyway for Montana and Nevada, but continue an experimental approach in Utah. However, results with respect to both Tundra swan and Trumpeter swan harvests in Montana and Nevada would be reviewed annually and proposed changes would be considered as a normal part of the annual regulations process. In Utah, a new three-year experiment will be instituted and the provisions of that experiment would not be altered during the experimental period. Procedures for issuance of annual regulations are found in SEIS 88, Final Supplemental Environmental Impact Statement: Issuance of annual regulations permitting the sport hunting of migratory birds (USDI 1988).

### **C. AUTHORITY AND RESPONSIBILITY**

In the United States the preeminent authority and responsibility for migratory game birds lies with the Secretary of the Interior and is derived from international treaties to which the Constitution specifies that only the Federal Government can be signatory. The key instrument defining Federal authority is the Migratory Bird Treaty Act of 1918 (as amended). Among those species designated as "migratory game birds" for which there is Federal management authority is the taxonomic family *Anatidae*, which includes ducks, geese, brant, and swans. Authority for establishing hunting seasons for both Tundra and Trumpeter swans is provided in the Migratory Bird Treaty Act and appropriate Federal regulations (50 CFR). Regulations governing the establishment of annual regulations for the hunting of migratory birds are specified in *Title 50 Code of Federal Regulations, Part 20, Subpart K*.

## **II. PROPOSED ACTION AND ALTERNATIVES**

### **A. PRINCIPAL ALTERNATIVE ACTIONS**

#### **ALTERNATIVE 1 (PREFERRED ALTERNATIVE) - ALLOW A LIMITED TAKE OF TRUMPETER SWANS DURING RESTRUCTURED SWAN HUNTING SEASONS:**

The Service would continue to establish a hunting season on all swan species in designated portions of Montana and Nevada, within the Pacific Flyway. Constraints imposed upon swan hunting seasons described in the original Environmental Assessment on this issue (Bartonek et al. 1995) would be continued (including those defined in Modifications, below). Specific areas open to swan hunting in Montana and Nevada would remain as defined under the preferred alternative as described in the original Environmental Assessment on this issue (Bartonek et al. 1995). Additionally, the Service would continue to require the monitoring of swan harvests, by mail in Montana, and by examination in Nevada, with appropriate provisions for season closure to be implemented by States should assigned quotas of Trumpeter swans be reached.

The Service will further restrict areas where Tundra swan hunting is allowed in Utah. After review of comments received in response to the draft Supplemental Environmental

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Assessment issued on March 3, 2000 the Service has determined that the swan season in Utah should be further restricted (see discussion under Part V of this Assessment). In Utah, the Service will continue the area and time restrictions imposed in the 1995 Environmental Assessment (Bartonek et al 1995). Additionally, the Service will close all lands north of the Bear River Migratory Bird Refuge to all swan hunting in Utah, reduce the quota on allowable take of Trumpeter swans in Utah from 15 to 10, and reduce the number of Tundra swan permits issued in Utah to 2,000. The Service would extend the season ending framework date from the first to the second Sunday in December. Comments identified the potential impact of harvest in Utah as the main issue regarding appropriate management action needed to address the problem concerning the winter distribution of RMP Trumpeter swans. There was a wide disparity of opinion offered on the actual impact of this limited harvest on the redistribution of RMP Trumpeter swans. Given the uncertainty and disparate views on this particular issue, the Service will establish a new experiment of 3 years duration to assess the impacts of these further restrictions in Utah. During this time, the Service will request the States, through the Pacific Flyway Council, other Federal Agencies, and interested NGO's participate with the Service in development of a comprehensive implementation plan for addressing specific issues regarding RMP Trumpeter swan management in this region. The Service will complete it's portion of this implementation plan during 2001, and will request the other cooperators to complete their portions no later than July 2002. This plan and results from the new 3-year experiment will serve as the basis for the Service evaluation of this new experiment.

The Service will assume a leadership role in attempting to enhance Trumpeter swan status and breeding distribution within the Pacific Flyway through increased efforts directed at establishment of breeding Trumpeter swans in suitable habitats throughout the Pacific Flyway. The Service would also continue to support cooperative efforts to address the winter distribution issues by working with State, NGO and individual partners. The Service would support limited winter capture and translocation on a case by case basis when circumstances developed that seemed to warrant such activity. The Service does not plan to employ winter translocations as the main method to address the winter distribution problem of RMP Trumpeter swans, but rather as a method to limit risk to swans from direct over-winter mortality, if necessary.

**ALTERNATIVE 2 - NO ACTION:** Under the No Action Alternative, the *status quo* prior to 1994 would be re-instituted. The Service would continue to establish open seasons on Tundra swans in all of Utah and parts of Montana and Nevada, while maintaining a "closed season" on Trumpeter swans. The Service would continue to cooperate with the Pacific Flyway Council and States in efforts to benefit winter-range distribution of Trumpeter swans.

**ALTERNATIVE 3 - SEVERELY RESTRICT OR CLOSE Tundra SWAN HUNTING:** Under Alternative 3, the Service would either severely restrict areas and times where

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Tundra swan hunting was allowed or not allow open seasons on Tundra swans, or both, in those parts of Montana, Utah, or Nevada that are likely to be used by Trumpeter swans.

The Service will continue to cooperate with the Pacific Flyway Council and States in mutually agreed-upon efforts to benefit winter-range distribution of Trumpeter swans. The Service would assume a leadership role in attempting to enhance Trumpeter swan status and breeding distribution within the Pacific Flyway through increased efforts directed at establishment of breeding Trumpeter swans in suitable habitats throughout the Pacific Flyway. The Service would also continue to support cooperative efforts to address the winter distribution issues by working with State, NGO and individual partners. The Service would support limited winter capture and translocation on a case by case basis when circumstances developed that seemed to warrant such activity. The Service does not plan to employ winter translocations to address the winter distribution problem of RMP Trumpeter swans, but rather as a method to limit risk to swans from direct over-winter mortality if necessary.

### **ALTERNATIVE 4 - CEASE ACTIVE Trumpeter SWAN RANGE EXPANSION**

**EFFORTS:** Under Alternative 4, the Service would cease its participation in cooperative efforts to enhance the winter distribution of RMP Trumpeter swans. The season on Trumpeter swans would remain "closed," but Tundra swan hunting could become more restrictive if it was deemed appropriate to improve survival rates of pioneering Trumpeter swans.

**B. MODIFICATIONS TO ALTERNATIVES:** This section identifies various modifiers to the four alternatives.

#### **1. HARVEST QUOTA:**

Under all alternatives, quotas would be reviewed at three-year intervals and changes in quotas would be addressed through the normal regulatory process for the establishment of hunting regulations for migratory birds, except in the case of Utah, where a separate evaluation of the new 3-year experiment would be conducted. Procedures for issuance of annual regulations are found in SEIS 88, Final Supplemental Environmental Impact Statement: Issuance of annual regulations permitting the sport hunting of migratory birds (USDI 1988).

a. Variable Quota - Conservative. Quota would be set annually at 1 percent of the previous winter population as measured by the Midwinter Trumpeter Swan Survey and would be divided among Montana, Utah, and Nevada.

b. Variable Quota - Moderate. Quota would be set annually at 4 percent of the previous winter population as measured by the Midwinter Trumpeter Swan Survey, with the quota being divided among Montana, Utah, and Nevada.

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c. Fixed Quota - Conservative (Recommended Option). The quota would be set at 15 Trumpeter swans to be annually divided between Utah (10) and Nevada (5). Subject to annual review, including the reported and estimated take of Trumpeter swans; Montana would not be governed by a quota.

d. Fixed Quota - Moderate. The quota would be set at 60 Trumpeter swans to be annually divided between Utah and Nevada. Subject to annual review; Montana would not be governed by a quota.

## 2. SEASON DATES AND LENGTH

Under all alternatives, season dates and duration would be reviewed at three-year intervals and changes in frameworks for swan seasons would be addressed through the normal regulatory process for the establishment of hunting regulations for migratory birds. Procedures for issuance of annual regulations are found in SEIS 88, Final Supplemental Environmental Impact Statement: Issuance of annual regulations permitting the sport hunting of migratory birds (USDI 1988).

### a. Earlier Season Ending Date (Recommended Option).

Montana: Season ending date of not later than December 1.

Utah: Season ending date of not later than the second Sunday in December.

Nevada: Season ending date of not later than the first Sunday following January 1.

### b. Season Length Varies with Framework Dates (Recommended Option).

Season length would vary but would not be more than the maximum number of days between the Saturday closest October 1 to the ending date recommended for each State in 3a, above.

### c. No Change in Ending Date or Season Length from that during 1988-93.

Outside season dates would be from the Saturday closest to October 1 (September 28-October 3) to the Sunday closest to January 20 (January 17-23). The season length could not exceed 100 days.

**3. Trumpeter SWAN WINTER RANGE-DISTRIBUTION EFFORTS**

a. Active (Preferred Option). The Service would participate in cooperative efforts to achieve winter-distribution objectives, including continuation of hazing activities at Harriman State Park, in Idaho, continue the suspension of all supplemental feeding programs for both Trumpeter and Tundra swans on Service-managed lands, and work on habitat manipulations that would make the current wintering concentration area less attractive to wintering swans. Additionally, the Service would actively promote expansion and augmentation of breeding Trumpeter swans throughout suitable areas in the Pacific Flyway and particularly on Service managed lands.

The Service will complete a more detailed implementation plan for specific activities on Service lands designed to benefit RMP Trumpeter swans in 2001. The Service will also request that the Pacific Flyway Council in conjunction with NGO and other Federal Agency partners participate in expanding this implementation plan to include activities on other State, Federal and private lands within the Pacific Flyway. The Service will request that such a plan be completed no later than July 2002. Failure to develop such a plan will result in a reevaluation of all swan hunting activities in the Pacific Flyway.

The Service would give consideration in the establishment of appropriate annual regulations for swan hunting to State activities directed at enhancing Trumpeter swan status and distribution. This consideration would be in recognition that State activities intended to help address current problems should not be then held against the affected State's interests. Funding and effort for these tasks would be relative to other migratory bird management matters.

b. Passive. The Service would issue necessary permits to States and others to achieve Trumpeter swan management objectives as requested but would not participate in those efforts. No specific efforts to address Trumpeter swan population status or distribution would be undertaken on Service managed lands.

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### SUMMARY OF DIFFERENCES AMONG ALTERNATIVES

EFFECTS	Alt. 1. Restructured Swan Hunting Season	Alt. 2. No Action	Alt. 3. Severely Restrict or Close Swan Hunting	Alt. 4. Cease Range Expansion Efforts
Swan Species Allowed in Harvest	All swan species, but not more than 15 may be Trumpeter swans in Nevada (5) and Utah (10).	Tundra swans.	If season is allowed, only Tundra swans.	Tundra swans.
Hunter Liability for Shooting a Trumpeter Swan	None.	Would be subject to prosecution for illegal take of a species for which there is no open season.	Would be subject to prosecution for illegal take of a species for which there is no open season.	Would be subject to prosecution for illegal take of a species for which there is no open season.
Earliest Season Opening Date	Saturday closest to October 1, which ranges between September 27 and October 3.	Saturday closest to October 1, which ranges between September 27 and October 3.	If season is allowed, date would be modified to prevent potential take of Trumpeter swans.	Saturday closest to October 1st, which ranges between September 27 and October 3.
Latest Season Closing Date	MT -December 1.  UT -2nd Sunday in December, which ranges between December 8-14.  NV -1st Sunday following January 1(January 2-8).	Sunday closest to January 20, which ranges between January 17-23.	If season is allowed, date would be modified to prevent potential take of Trumpeter swans.	Likely earlier season ending dates should Trumpeter swans be present or likely to occur in Tundra swan hunt areas.
Season Length in Days	Maximum allowed within outside framework dates but less than 100 days.	100 days.	If season is allowed, length would be determined by outside dates but would be less than 100 days.	Likely shorter seasons because of earlier season ending dates should Trumpeter swans be present or likely to be present in Tundra swan hunt areas.
Trumpeter Swan Quota and Season Closure	Quota not required in Montana. 15 Trumpeters to be allocated between Utah and Nevada, with season closure should quota be attained.	No quota. No authorized season on Trumpeter swans.	No quota. No authorized season on Trumpeter swans.	No quota. No authorized season on Trumpeter swans.

(Table continued)



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### SUMMARY OF DIFFERENCES AMONG ALTERNATIVES - CONTINUED

EFFECTS	Alt. 1. Restructured Swan Hunting Season	Alt. 2. No Action	Alt. 3. Severely Restrict or Close Swan Hunting	Alt. 4. Cease Range Expansion Efforts
Winter Range Distribution	Active participation by the Service. Participation by Pacific Flyway States dependent on interest, status of swan populations, and whether conflicts with hunt programs would be minimal or mitigated.	Active participation by the Service. Participation by states without swan hunts dependent on interest and status of swan populations. Other states may be reluctant to participate because of potential conflicts with hunt programs.	Active participation by the Service. Participation by States without swan hunts dependent on interest and status of swan populations. Support in other States will vary depending on perception to long-term impacts on harvest opportunities and habitat constraints.	No participation by Service. Participation by States unlikely.
Harvest Information	All hunters are required to report harvest and effort information via mail survey. Species composition would be by post-card bill measurement reporting in Montana and examination of all or part of bird by biologists in Utah and Nevada.	All hunters are required to report harvest and effort information via mail survey. Species composition would be by post-card bill measurement reporting in Montana and examination of all or part of bird by biologists in Utah and Nevada.	If season is allowed, all hunters are required to report harvest and effort information via mail survey.	All hunters are required to report harvest and effort information via mail survey. Species composition would be by post-card bill measurement reporting in Montana and examination of all or part of bird by biologists in Utah and Nevada.

### III. DESCRIPTION OF THE AFFECTED ENVIRONMENT

#### A. THE SWAN BASE

Three swan species are native to North America: Tundra, Trumpeter, and whooper swans (*C. cygnus*). Except as vagrants, whooper swans occur only during winter and then mainly in the western Aleutian Islands; and they would be unaffected by this action. Ranges of the Trumpeter (Appendix A: Fig 1) and Tundra swans (Appendix A: Fig. 2) include extensive areas throughout Canada and the United States. A fourth species, the mute swan, was introduced from Europe and is found feral throughout parts of northern North America and would potentially be affected by this action.

##### 1. Trumpeter Swans

Trumpeter swans are segregated for management purposes, not biological differences, into three populations: (1) the RMP, focus of this proposal, consists of a migratory flock from interior Canada; a largely sedentary flock from the Tristate area (portions of Montana, Idaho, and Wyoming), both of which winter in the Tristate area; and restoration flocks elsewhere in Wyoming, Idaho, Oregon, Nevada, and formerly in Washington (Appendix A: Fig. 1); (2) the Pacific Coast Population, which breeds mainly in Alaska and winters along the northern Pacific Coast (Appendix A: Fig. 1); and (3) the Interior Population, which is an amalgamation of independent restoration efforts in Nebraska, Minnesota, Michigan, Wisconsin, Iowa, Ontario, and Ohio (Appendix A: Fig. 1).

Trumpeter swan numbers are estimated by a number of surveys throughout North America. The population index most relied upon by managers is the coordinated summer survey conducted since 1968 (Caithamer 1996). This survey is now conducted at 5-year intervals and is next scheduled for the summer of 2000. Therefore, the most recent survey is from the summer of 1995. Based upon six continental surveys during 1968-95, Trumpeter swans are increasing at about 6 percent per year and totaled more than 19,000 birds in the late-summer of 1995. More than 1,000 additional Trumpeters are now in captivity and being held by aviculturists and zoos. All three management populations have been growing at approximately the same rates since these surveys were instituted. The RMP, as a whole, is exhibiting exponential growth over the time span covered by these surveys and totaled more than 2,400 in 1995 (Caithamer 1996, Appendix A: Fig. 4).

RMP Trumpeter swans are also surveyed annually during the winter (Gomez 1999a), and the U.S. portion of the RMP is also inventoried annually in the fall, prior to the arrival of Canadian migrants (Gomez 1999b). Based upon winter counts during January-February, 1999, RMP Trumpeter swans numbered 3,527 (Gomez 1999a). This figure suggests that the RMP has continued to grow since the last coordinated survey in 1995 (Fig. 4). Based

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on the mid-winter survey for the period 1972-99, the RMP increased at about 6 percent each year and has averaged about 20 percent young in the winter population.

As indicated above, managers recognize that the RMP of Trumpeter swans originates from a wide variety of breeding areas. These areas are sometimes divided into groups: those that nest in Canada; those that nest in the Tristate region of Montana, Wyoming, and Idaho; and those that have been established through expansion efforts in Wyoming, Montana, Idaho, Utah, Nevada, and Oregon. Trends in the population indices for these three groups, as measured by winter counts that are not precise in apportioning flock composition, have not been consistent; nor have management activities undertaken in the recent years apparently had the same impact on all portions of these populations. Numbers of RMP Trumpeter swans breeding in Canada have continued to increase fairly steadily, while numbers of Trumpeter swans breeding in the United States declined substantially following the cessation of the winter feeding program at Red Rocks Lake NWR (RRLNWR) and associated management actions in the winter of 1992/93. Since that time swan numbers have partially recovered and may be stabilizing at a lower level (Appendix A: Fig. 4).

In summary, numbers of RMP Trumpeter swans have continued to increase during the experimental period; however, numbers of RMP Trumpeter swans breeding within the United States have only partially recovered from the low number estimated in 1993. They have not reached levels that were present in the United States prior to the cessation of feeding programs at RRLNWR and the institution of other intensive management activities that were undertaken to address the winter distribution concerns of this population.

Trumpeters are classified as a migratory game bird. However prior to 1995, they had not been hunted since Federal protection was variously authorized first in 1913 and then successfully in 1918. They are not classified as being either "threatened" or "endangered" under the Endangered Species Act; although, in the 1960s, the species was listed under the Service's "Red Book" before more was known about its status. In 1989, the Service was petitioned to list the RMP as threatened, but the petition presented information insufficient to conclude that such listing was warranted (55(81)Federal Register: 17646-17648, April 16, 1990).

Aside from failure to winter in more favorable sites, status of the Tristate flock has been depressed both by purposeful management action to disperse birds (e.g., hazing, translocation, cessation of feeding programs) and through natural circumstances related to starvation because of overcrowding. Beginning in 1988 and continuing through 1997, a total of 1,476 RMP swans were captured and translocated to other sites to meet breeding distribution objectives of the Pacific Flyway management plan and in attempts to instill in birds a tradition to use other, more favorable winter sites. The results of the translocation effort were recently summarized in a report by Shea and Drewien (1999). They concluded the following points, among others, summarizing this effort:

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1. A total of 1,476 Trumpeter swans from RRLNWR and Harriman State Park (HSP) were translocated to 15 potential summer and winter habitats in Wyoming, Idaho, Utah, Oregon, and Montana. A total of 197 residents were moved from RRLNWR in summer and 1,279 (primarily migrants) were moved from HSP (1,102) and RRLNWR (177) in winter.
2. Of the 1,127 swans translocated in the winters of 1990-95, 40% (544) were missing or known dead within the first year. By May of 1997, 18% (199) were known dead, 52% (587) were missing, and 30% (341) were likely alive.
3. Few Trumpeters established enduring migrations to new habitats. By 1997, only 10% (111) of the swans translocated in winters 1990-95 were known to winter outside the Tristate area. These included 37 that had been wing-clipped and only recently regained flight, thus their use of new areas likely did not represent a persistent habitat preference.

The translocation program was among the most controversial aspects of Trumpeter swan management during recent years. The cooperative effort to trap and move Trumpeter swans was suspended by Flyway action in 1997/98. Although opinions range widely on the effectiveness of this action, there were several contributing factors considered. Based on preliminary results available to management agencies, it seemed clear that these efforts were not achieving redistribution objectives. This contention was subsequently supported by Shea and Drewien (1999). However, some improvement from the translocation program was achieved primarily by establishment of new breeding locations in the conterminous United States (i.e. Summer Lake, Oregon). Additionally, translocations may have contributed to some of the local redistribution achieved in southeastern Idaho. However, it is difficult to separate effects of hazing, habitat changes and building population numbers from the impact of these translocations. Concerns were also being expressed by some managers that the translocation efforts were having a disproportionately negative impact on the Tristate breeding segment of the RMP. This effect was believed due to the relatively high rates of direct mortality that were suffered by translocated swans and also the impact that disturbance had on the condition of swans wintering in the capture area. Additional concerns about real and/or perceived conflicts between Tundra swan hunting and Trumpeter swan translocation programs contributed to the decision as well.

Potential for winter losses continues. Heavy wintering use is made of Henry's Fork of the Snake River by RMP Trumpeter swans, causing significant damage to habitat of a world-class trout fishery. Perhaps, more than a hundred swans died from starvation on the Henry's Fork in the winter of 1988-89, although exact numbers are not known. The die-off drew considerable media attention and prompted the 1989-petitioning for Endangered Species Act listing.

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The Pacific Flyway Management Plan for RMP Trumpeter swans (Subcommittee on RMP Trumpeter Swans 1998), endorsed by the Pacific Flyway Council and supported by the Service, calls for aggressive action to broaden the breeding and winter distribution of swans and restore a tradition for migration, in part, to alleviate chronic wintering problems. Since 1990, the Service, States, Bureau of Reclamation (BOR), and others have spent more than \$1 million in trapping, translocating, hazing, and monitoring activities. Efforts to re-establish migratory behavior have shown only limited success to date.

### 2. Tundra Swans:

Tundra swans are segregated for management purposes, not biological differences, into two populations: (1) the Western Population (WP), object of this proposal, which breeds in western Alaska, migrates mainly through the Tristate area, Utah, and Nevada to winter mainly in California (Appendix A, Fig. 2); and (2) the Eastern Population (EP), which breeds mainly in Arctic Canada and winters mainly on the eastern U.S. coast.

Numbers of Tundra swans are indexed annually by the mid-winter survey conducted in major waterfowl concentration areas across North America. Indices for both Eastern and Western Populations display long-term upward trends. The WP has increased at an annual rate of about two-percent per year since 1955, reaching record high numbers during the last 3 years. The most recent mid-winter index suggested about 90,000 Tundra swans in the WP in January of 2000 (Appendix A: Fig. 3).

The Pacific Flyway Council and the Service cooperatively developed management plans for WP Tundra swans (Subcommittee on Whistling Swans 1983). Objectives include:

- ! Maintain a 3-year average population index of at least 38,000 swans as estimated by the midwinter waterfowl survey;
- ! Maintain current patterns of distribution throughout the swan's range;
- ! Provide breeding, migration, and wintering habitats of sufficient quantity and quality to maintain the desired numbers and distribution of swans; and
- ! Provide for aesthetic, educational, scientific, and hunting uses of these swans.

A companion hunt plan for WP Tundra swans (Pacific Flyway Study Committee 1989) developed a strategy that would allow for an annual harvest commensurate with maintaining a long-term winter population of at least 38,000 birds. The hunt plan also recognized that in order to protect resident or migrating Trumpeter swans that zone closures and season modifications to Tundra swan seasons should be considered.

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Federally authorized hunting seasons on Tundra swans were first allowed in Utah in 1962. WP Tundra swan seasons are now allowed in portions of Alaska, Montana, Utah, and Nevada. Seasons on EP Tundra swans are authorized for Montana (Central Flyway portion), North Dakota, South Dakota, Virginia, North Carolina, and New Jersey. Sport hunting programs are endorsed by all Flyway Councils with a harvest objective of generally less than 10 percent of the winter population. Harvest is allocated among States by permits. State-administered permit systems provide good estimates of harvest. Sport harvest of the WP and EP is less than 2 and 4 percent of their respective midwinter swan population indices; but the combined subsistence harvest (8 percent) and sport harvest (2 percent) of the WP total about 10 percent. Trost et al. (2000) provide a summary of permit allocation, hunter participation, harvest, and age-composition of the harvest, by State, as related to WP Tundra swans (Appendix A, Tables 1a-1d).

### **3. Mute Swans:**

Mute swans both escape and are released from captivity. In the Atlantic and Mississippi Flyways they breed in the wild, averaging more than 7,000 birds during winter counts in 1985-94. In the Pacific Flyway, feral mute swans were first recorded in the midwinter inventory in 1975, averaged 3 swans per year during 1975-95, ranging upwards to 14 individuals. The Pacific Flyway distribution of mute swans in the wild is largely dependent upon where they escaped or were released from captivity, with most being reported in Washington and Oregon; however, they were reported in Nevada during 2 winters. Mute swans are not among those species protected by the Migratory Bird Treaty Act of 1918 (see "List of Migratory Birds" at 50 CFR 10.13).

## **B. THE SWAN HABITATS**

### **1. Trumpeter Swans:**

Trumpeter swans historically occurred over much of northern North America, excluding arctic areas, with populations wintering along the Atlantic, Pacific, and Gulf of Mexico coasts. Trumpeters nested in the prairies and bottomlands of the mid-continent where they were among the first waterfowl to be negatively impacted by settlement. Today, RMP Trumpeters nest in small wetlands and lakes in subarctic taiga, boreal forest, and aspen parklands in southern Yukon, northeastern British Columbia, southern Mackenzie District, Alberta, and southeastern Saskatchewan. In the U.S., they nest in lakes and other wetlands in the mountainous portions of the Tristate area of Montana, Idaho, and Wyoming, and in some of the Great Basin marshes found in Nevada and Oregon generally seeking undisturbed habitats with aquatic foods. The Centennial Valley, Teton Basin, Yellowstone Park, Harney Basin, Summer Lake, and Ruby Lake are some of the more important Trumpeter nesting areas in the western United States.

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Aside from restoration flocks in Oregon and Nevada which are largely non-migratory and of Tristate origin, a majority of RMP Trumpeter swans stage in fall or winter in the Tristate area. The focal point for most wintering and migrating Trumpeters and the primary cause for concern is the winter concentration of birds at Harriman State Park on the Henry's Fork of the Snake River in southeastern Idaho, and at Red Rock Lakes National Wildlife Refuge in southwestern Montana. Swan and other waterfowl using the Harriman State Park sanctuary have, in some winters, so depleted the submerged aquatic vegetation that they are at risk of starvation. Starvation losses and poor nutrition prior to onset of nesting may limit prospects for population growth and range expansion.

Translocated swans use sites in the American Falls Reservoir in southeastern Idaho. Migrant swans from the Canadian flock have been observed as far south as the Central Valley of California; and they likely arrived there after following Tundra swan migration corridors through Montana, Idaho, Utah, and Nevada. In general, wintering swans are dependent on naturally-occurring aquatic plants in sufficient abundance and nutritional quality. They have not yet adapted to feeding in agricultural fields as have many other species of waterfowl to their benefit.

### 2. Tundra Swans:

WP Tundra swans breed in western Alaska and, as their name implies, in Tundra habitat. They are found during summer from the Koyukuk River south to the Alaska Peninsula. Some birds nest on Kodiak Island, but the vast majority occur on the Yukon-Kuskokwim Delta (Appendix A, Fig. 2). In migration, WP swans follow both coastal (minor) and interior (major) routes and use a diversity of habitat types ranging from estuarine, fresh-water, alkaline, natural, agricultural and wildlife-managed sites. Tundra swans rely extensively upon aquatic vegetation throughout the year. In migration and wintering areas, sago pondweed is a favored food plant, but they will frequent upland areas to graze on grasses, sedges, and berries. They have learned to glean grain from both dry and flooded agricultural fields and forage on pasture to supplement their natural aquatic diet.

### 3. Mute Swans:

Mute swans occupy the same habitats used by other swans and waterfowl and potentially compete with them for food and space.

## **C. AFFECTED AND INTERESTED PARTIES**

The proposed action predominately and directly affects residents of Montana, Utah, and Nevada. People living elsewhere but having an active interest and/or direct involvement in management of swans would also be affected.

### **1. HUNTERS**

The proposed action would directly affect the approximately 5,400 hunters who applied for the 3,900 total permits available in Utah (2,750), Montana (500), and Nevada (650) for the 1998-99 hunting season. This number is also approximately the long-term average number of hunters who have applied for swan hunting permits in these States.

### **2. NON-GOVERNMENTAL ORGANIZATIONS AND PUBLIC**

The proposed action would directly affect NGOs actively involved with Trumpeter swan restoration, specifically The Trumpeter Swan Society (approaching 500 members in 1995) which promotes the well being and restoration of Trumpeter swans, and the Henry's Fork Foundation (700 members) which promotes dispersal of Trumpeter swans and other waterfowl on the Henry's Fork River in order to restore the damaged world-class trout fisheries. Additional NGOs that have expressed an interest in this issue include the Humane Society of the United States, The Fund for Animals, Inc., the Animal Protection Institute, and the Biodiversity Legal Foundation. Several members of the general public have also directly contacted Service representatives concerning this issue.

### **3. BUSINESS**

The proposed action would affect businesses that are partially dependent upon meeting the needs of hunters and services associated with restoration efforts.

## **IV. ENVIRONMENTAL CONSEQUENCES**

### **A. DISCUSSION OF ALTERNATIVES**

#### **1. ALTERNATIVE 1 (PREFERRED ALTERNATIVE IN MONTANA AND NEVADA) - ALLOW A LIMITED TAKE OF TRUMPETER SWANS DURING GENERAL SWAN HUNTING SEASONS:**

The proposed action would allow all swan species to be legally taken during general swan hunting seasons in designated portions of Montana, Utah and Nevada, within the Pacific Flyway. Possession, transportation, and disposition of all swan species would be governed by regulations applicable to all other waterfowl species (see 50 CFR Part 20).



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The Tundra swan hunting season that existed prior to 1995 was significantly modified by the 1995 Environmental Assessment and subsequent regulations. This proposal would maintain many of these alterations, specifically the area restrictions that were then imposed, the number of permits to be allocated in Montana and Nevada, and the harvest monitoring requirements.

In Utah, hunters will be further restricted in the Great Salt Lake Basin. The harvest of Tundra swans is expected to be reduced from past levels. Trumpeter swan harvest will be limited to no more than 10 in Utah and 5 in Nevada. The Nevada and Utah swan season will be closed upon attainment of their assigned quota (established at 5 and 10 Trumpeter swans, respectively). The number of Tundra swan permits will be reduced from 2,750 to 2,000 in Utah. Season dates will continue as prescribed in the original Environmental Assessment. The Service would extend the ending date for season closure to the second Sunday in December during the next experimental period.

The Service will assume a greater leadership role in cooperative efforts to expand the winter range of Trumpeter swans throughout the Pacific Flyway. The Service will seek concurrence of State, other Federal Agency and NGO partners by requesting participation in the development of a detailed implementation plan to achieve the goals and objectives of the Pacific Flyway's 1998 RMP Trumpeter swan Management Plan. The Service will attempt to achieve this action through introduction of additional Trumpeter swans into suitable habitat throughout the Pacific Flyway, and by continuing management efforts to discourage use of the Tristate wintering concentration area.

### a. THE SWAN BASE

Trumpeter Swan: The Service would: (1) actively participate in efforts to enhance the winter distribution of Trumpeter swans, and (2) maintain the biologically acceptable, but conservative harvest quota of 15 Trumpeter swans in Utah and Nevada. Notwithstanding possible harvest of that number of swans, the quota would still allow the Trumpeter swan population to increase in size, expand its range, and encourage individuals to pioneer into more favorable sites where survival rates would be expected to be higher than otherwise.

Tundra Swan: The number and distribution of Tundra swans in Montana, Utah and Nevada would be largely unaffected by this action as compared to *status quo*. The number of permits authorizing the take of swans would be maintained in Montana and Nevada but reduced in Utah. The anticipated harvest of Tundra swans would remain within guidelines for maintaining the population above 38,000 individuals in winter.

Mute Swan: The number and distribution of mute swans would be largely unaffected by this action as compared to *status quo*. The species would remain unprotected by the Migratory Bird Treaty Act of 1918, as amended.

**b. THE SWAN HABITATS**

Hazing, elimination of supplemental feeding, and other cooperative efforts to make current wintering habitats less hospitable (such as attempting to maintain high flow rates in the Henry's Fork) would continue. Due to concerns and doubts about the effectiveness of translocations, the Service will only support this activity on a limited, case by case basis and not as the preferred means of addressing the winter distribution problem. Further, the Service will request State, NGO, and other Federal agency cooperators to join in development of a detailed implementation plan to achieve the goals and objectives of the 1998 Flyway management plan. This plan should contain guidelines for translocation activities for use in the Pacific Flyway. Elsewhere and for all species of swans, the proposed action will not affect the habitats used by swans.

**c. AFFECTED AND INTERESTED PARTIES**

In Montana, hunters will still not be able to hunt swans in the western portions of Pondera & Teton Counties (areas formally open to Tundra swan hunting). However, the new opportunities afforded those hunting in the larger Chouteau County that were instituted in 1995 will be maintained.

The Nevada swan season will be closed upon attainment of their assigned quota (established at 5 Trumpeter swans). Areas open to hunting in Nevada and season dates will remain unchanged from those established in the 1995 Environmental Assessment.

In Utah, swan hunting opportunities would be further reduced, with the number of permits issued reduced from 2,750 to 2,000; the quota on Trumpeter swan take would be reduced from 15 to 10; and the area open to swan hunting would be reduced by the closure of all areas north of the northern boundary of the Bear River Migratory Bird Refuge to all swan hunting.

Persons and NGOs that are opposed to hunting and those opposed to hunting swans, especially Trumpeter swans, will continue to oppose swan seasons. NGOs seeking restoration of Trumpeter swans, while not endorsing the legal take of this species, may find this a more acceptable alternative as it was generally suggested by many who commented on the draft Environmental Assessment that seasons could continue in Montana and Utah, but should be further reduced in Utah.

Business would continue to provide equipment and services to hunters and agencies involved in swan restoration efforts.

## 2. ALTERNATIVE 2 - NO ACTION:

Under the "No Action" alternative, the *status quo*, i.e., frameworks for seasons that were in effect during 1988-93, would be maintained. Areas and seasons and numbers of permits for Tundra swan hunting in Montana, Utah, and Idaho, would be unmodified from that which prevailed between 1983 and 1994. The restrictions imposed in Utah in 1994, which included a fixed December 15 closing date and no open seasons in Cache, Daggett, Rich, and Uintah Counties would not be imposed. The Service would continue to establish open seasons on Tundra swans in parts of Montana and Nevada and throughout Utah while maintaining a "closed season" on Trumpeter swans. Seasons could continue through the Sunday closest to January 1 and not exceed 100 days.

### a. THE SWAN BASE

Trumpeter Swan: The Service would continue to participate in cooperative efforts to improve winter-range distribution of Trumpeter swans within parts of the Pacific Flyway. Should Trumpeter swans enter Tundra swan hunt areas, because of hazing or through pioneering, they would not be afforded additional protection in time or area. Those swans arriving in late winter would have an increased risk of being killed during a Tundra swan season and, thereby, possibly slow the rate of pioneering and winter range distribution. The overall Trumpeter swan population would continue to increase but at a slower rate.

Tundra Swan: The number and distribution of Tundra swans would be largely unaffected by this action.

Mute Swan: The number and distribution of mute swans would be largely unaffected by this action. The species would remain unprotected by the Migratory Bird Treaty Act of 1918, as amended.

### b. THE SWAN HABITATS

Hazing, elimination of supplemental feeding, and other cooperative efforts to make current wintering habitats less hospitable (such as attempting to maintain high flow rates in the Henry's Fork) would continue. Due to concerns and doubts about the effectiveness of translocations, the Service will not support continuation of this activity unless and until State, NGO, and other Federal agency cooperators request such assistance. Elsewhere and for all species of swans, the proposed action will not affect the habitats used by swans.

**c. AFFECTED AND INTERESTED PARTIES**

Not more than 500, 2,500, and 650 permittee's in Montana, Utah, and Nevada, respectively, would still be able to hunt. In Utah, the State-wide hunt would result in some hunting activity in places where swans are significantly less abundant, both spatially and temporally, than in the Great Salt Lake Basin.

The Service and State agencies would continue to issue citations and prosecute Tundra swan hunters who accidentally took Trumpeter swans during an open season on Tundra swans.

NGOs and persons either opposed to swan hunting or interested in an expedited winter-range expansion effort for Trumpeter swans would continue to be dissatisfied with the Tundra swan seasons because of the potential loss of pioneering Trumpeter swans.

Swans would continue to be discouraged from using over-crowded wintering sites by hazing, and they would not be fed. Additionally, States may be reluctant to accept wintering swans because of uncertainties related to ongoing waterfowl seasons.

Business would continue to provide equipment and services to hunters and agencies involved in swan restoration efforts.

**3. ALTERNATIVE 3 - SEVERELY RESTRICT OR CLOSE TUNDRA SWAN HUNTING:**

Under Alternative 3 the Service would either severely restrict or not allow open seasons on Tundra swans in those parts of Montana, Utah, or Nevada that are likely to be used by Trumpeter swans should range expansion efforts prove successful, where there is recent information on the occurrence of Trumpeter swans, or both. Seasons, if allowed, would be structured to prevent any incidental take of Trumpeters swans during Tundra swan seasons. Waterfowl hunting could be similar to that experienced by hunters in Utah prior to 1962, in Nevada prior to 1969, and in Montana prior to 1970, when waterfowl seasons were closed to the taking of any swan species.

**a. THE SWAN BASE**

Trumpeter Swan: The Service would continue to participate in cooperative efforts to improve winter-range distribution of Trumpeter swans within parts of the Pacific Flyway. The risk of Trumpeter swans being shot during a general waterfowl season would be significantly reduced because there likely would be no open season in Tundra swan concentration areas which are also the areas likely to be used by Trumpeter swans. Overall, the Trumpeter swan population would likely increase at a greater rate and become more widely distributed in winter than under *status quo* or the preferred alternative.

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Tundra Swan: The numbers of Tundra swans would likely increase, but their distribution would be largely unaffected by this action.

Mute Swan: The number and distribution of mute swans would be largely unaffected by this action. The species would remain unprotected by the Migratory Bird Treaty Act of 1918, as amended.

### **b. THE SWAN HABITATS**

Hazing Trumpeter swans from crowded wintering sites on the Henry's Fork of the Snake River has potential to allow habitats to recover from recent, excessive use by waterfowl. However, potentially increasing numbers of Tundra swans could in some localities compete with Trumpeter swans for winter-limited resources. Elsewhere and for all species of swans, the proposed action will not affect the habitats used by swans.

### **c. AFFECTED AND INTERESTED PARTIES**

If swan hunting was not allowed, all swan species would occasionally be illegally taken concurrent with waterfowl seasons. When detected, violators would be issued citations, prosecuted, and the dead swans confiscated. Potentially 3,900 hunters would be denied an opportunity to hunt swans.

NGOs and persons opposed to swan hunting and NGOs supportive of Trumpeter swan restoration efforts would support this alternative, while those favoring hunting would oppose it.

In Idaho and Montana hazing swans from over-crowded wintering sites would likely be continued as would the suspension of artificial feeding. Neighboring states would be reluctant to accept hazed swans because of the impact of the program on traditional hunting opportunities.

Business partially dependent upon swan hunters would have diminished sales.

### **4. ALTERNATIVE 4 - CEASE ACTIVE Trumpeter SWAN RANGE EXPANSION EFFORTS:**

Under Alternative 4, the Service would cease its participation in Trumpeter swan range expansion efforts, but through passive management would allow Trumpeter swans to expand their range naturally, at their own rate.

**a. THE SWAN BASE**

Trumpeter Swan: The Service would not actively participate in cooperative efforts to improve winter-range distribution of Trumpeter swans within parts of the Pacific Flyway. Any expansion by Trumpeter swans into Tundra swan hunt areas would occur without benefit of Federal participation and continued State participation would be unlikely. Should Trumpeter swans enter Tundra swan hunt areas because of hazing or through pioneering, they would not be afforded additional protection in time or area. Those swans arriving in late winter would have an increased risk for being killed during a Tundra swan season and, thereby, possibly slowing the rate of pioneering and winter-range expansion. The overall Trumpeter swan population would likely continue to increase, but at a slower rate.

Tundra Swan: The number and distribution of Tundra swans would be largely unaffected by this action which is *status quo*.

Mute Swan: The number and distribution of mute swans would be largely unaffected by this action. The species would remain unprotected by the Migratory Bird Treaty Act of 1918, as amended.

**b. THE SWAN HABITATS**

Wintering sites on the Henry's Fork of the Snake River have potential to be further degraded by waterfowl; thereby, increasing the frequency for die-offs of Trumpeter swans because of starvation. Elsewhere and for all species of swans, the proposed action will not affect the habitats used by swans.

**c. AFFECTED AND INTERESTED PARTIES**

Swan hunters in the Pacific Flyway would either lose or have reductions in their opportunity to hunt Tundra swans. Should seasons continue, hunters would be subject to prosecution should they accidentally take a Trumpeter swan during Tundra swan seasons.

Those NGOs and persons not supportive of any swan hunting under any conditions would object should seasons be allowed. Those NGOs interested in enhancing the status of Trumpeter swans would object to the lost active support by the Service to hasten restoration of the species in the West.

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Hazing swans from over-crowded wintering sites would likely be discontinued because of uncertainty regarding the fate of waterfowl hunting seasons due to the presence of Trumpeter swans and the lack of Service funding,. Artificial feeding on Service lands would not be re-instituted. Business would continue to provide equipment and services to hunters but not to the Service and most State agencies involved in swan restoration efforts.

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### B. SUMMARY OF EFFECTS

#### ALTERNATIVES

EFFECTS	1. Restructured Swan Hunting Season	2. No Action	3. Severely Restrict or Close Swan Hunting	4. Cease Trumpeter Swan Range Expansion Efforts
Winter Distribution of Trumpeter Swans	Risk to Trumpeter swans potentially moving along Tundra swan migration corridors in the Pacific Flyway would be controlled. Protection for Trumpeters would be enhanced due to early season closures and expanded area closures in Utah.	Trumpeter swans will expand their winter range, but those moving into hunt areas in late winter would be at potential risk from up to 100-day swan seasons.	Trumpeters following Tundra swan migration corridors would be at minimal risk from waterfowl hunting.	Trumpeter swans would continue to expand their range but more slowly. The Tristate population would be at greater risk from die-off because of overcrowding and starvation.
Trumpeter Swan Status	Trumpeter swans would be legally taken but their number limited and monitored. Tristate group of swans would likely increase due to augmentation. They would remain subject to a die-off in SE Idaho but it would have less impact on the population. The Canadian group would continue to increase.	Trumpeter swans would be shot accidentally during Tundra swan seasons but the take mostly not monitored. Tristate group of swans would remain stable or decrease, and would be subject to a die-off in SE Idaho. The Canadian group would continue to increase.	The Tristate group of swans would remain stable or increase, but would be subject to a die-off in SE Idaho. The Canadian group would continue to increase.	Trumpeter swans would be accidentally shot during Tundra swan seasons, but monitoring take would likely be required. Tristate group of swans would likely remain stable or decrease, but would be significantly more likely to be impacted by a die-off in SE Idaho. The Canadian group would continue to increase.
Tundra Swan Status	Tundra swans would continue to be harvested with the maximum take guided by a Flyway-approved harvest strategy but constrained by safeguards for Trumpeter swans. Tundra swan numbers would likely remain stable or increase should harvest be reduced.	Tundra swans would continue to be harvested with the maximum take guided by a Flyway-approved harvest strategy. Tundra swan numbers would likely remain stable or continue to increase.	If season was allowed, Tundra swans could be taken but likely the total harvest would be reduced. Tundra swan numbers likely would increase at a faster rate unless subsistence harvests were to increase.	Tundra swans would continue to be harvested with the maximum take guided by a Flyway-approved harvest strategy. Current levels of harvest would approach that recommended by the strategy. Tundra swan numbers would likely remain stable.

(Table continued)



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### ALTERNATIVES - CONTINUED

EFFECTS	1. Restructured Swan Hunting Season	2. No Action	3. Severely Restrict or Close Swan Hunting	4. Cease Trumpeter Swan Range Expansion Efforts
Swan Hunting Opportunity & Success	Hunter numbers would be further reduced (3,150). Hunter days could be reduced or remain unchanged should hunters redirect their activities. Hunter success is likely to increase because effort will be concentrated in both time and area where Tundra swans are most abundant. Season potentially would be terminated early by achieving quota of Trumpeter swans.	A maximum of 3,650 permits would be authorized for hunters to hunt potentially 100 days between approximately October 1 and January 20. Montana hunters could hunt in all of Pondera and Teton counties but not Chouteau County. Utah hunters could hunt state-wide.	Potentially 3,900 hunters would not be allowed to hunt swans.	Hunter numbers would not change. Potential season dates and lengths would likely be restricted and hunt areas modified; therefore, hunter days could be reduced or remain unchanged should hunters redirect their activities. Similarly, hunter success could be reduced or remain unchanged should hunters redirect their activities. Depending on which areas were open or closed to hunting, success could decrease if restrictions were in swan concentration areas or increase if elsewhere and focusing effort on concentration areas.
Hunter Liability	Swan hunters taking a Trumpeter swan could do so legally. Season would terminate should quota be obtained; and, therefore, preventing additional take.	Swan hunters accidentally taking Trumpeter swans would be subject to prosecution.	Should a season be allowed, swan hunters accidentally taking Trumpeter swans would be subject to prosecution	Swan hunters accidentally taking Trumpeter swans would be subject to prosecution.
Public Attitudes	Hunters would be displeased with restrictions. Most NGOs and the public who do not support a balanced approach to either hunting or restoration would be displeased.	Hunters would be pleased with minimal restrictions and inconvenience but risk prosecution. Various NGOs would be dissatisfied with progress at enhancing Trumpeter swan redistribution.	Hunters would be displeased. Various NGOs would be satisfied that progress was being made to enhance Trumpeter swan redistribution; but some of those would be dissatisfied that it was done at the expense of hunting.	Hunters would be displeased with restrictions. Various NGOs would be dissatisfied that active efforts were not being made to enhance Trumpeter swan redistribution.

(Table continued)

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### ALTERNATIVES - CONTINUED

EFFECTS	1. Restructured Swan Hunting Season	2. No Action	3. Severely Restrict or Close Swan Hunting	4. Cease Trumpeter Swan Range Expansion Efforts
Costs to Hunters to Administer Programs	Potential added costs in fees to administer a more restricted program. Hunters may need to travel further to hunt; and they will be required submit birds for examination in Utah and Nevada and report via postcard in Montana.	No additional costs in money or time.	If a season allowed, reduced costs and hunting opportunity. If season is closed, no costs and hunting opportunity will be eliminated.	Potential added costs in fees to administer a more restricted program. Hunters may need to travel further to hunt or submit birds for examination.
Costs to Agencies to Administer Programs	Additional costs for obtaining hunter and harvest information data and enforcement related to general swan seasons. No additional costs in hazing, translocating, and monitoring Trumpeter swans; but cost-effectiveness of effort potentially greater than Alternatives 2 and 4 but less than 3.	Costs of obtaining hunter and harvest information data and enforcement of Tundra swan seasons would continue. Costs to haze, and monitor Trumpeter swans would continue. Cost-effectiveness of effort would be potentially negated by unrestricted take of Trumpeter swans.	Costs related to hunt dependent upon whether or not season is allowed. Costs to haze and monitor Trumpeter swans would continue. Cost-effectiveness of effort potentially will be increased because the accidental take of Trumpeter swans should be minimal.	Additional costs for obtaining hunter and harvest information data and enforcement related to Tundra swan seasons. No costs associated with efforts to further enhance the winter range distribution enhancing.

## **2. UNAVOIDABLE ADVERSE IMPACTS AND MITIGATIVE MEASURES OF THE ALTERNATIVES**

This action may increase support for Trumpeter swan restoration efforts from many of those States, NGOs, and individuals concerned that waterfowl hunting, especially swan hunting, could not be compatible with the occurrence of Trumpeter swans. While Trumpeter swans will likely be killed during swan seasons; the surviving swans will have improved opportunity to establish traditions for using suitable and safe wintering areas and migration corridors. The limited take of Trumpeter swans will be mitigated by the active augmentation of the Trumpeter swan population within the Pacific Flyway.

## **V. SUMMARY OF COMMENTS AND SERVICE CONCLUSIONS:**

A total of 1,108 comments were received from States, NGO's, and individuals. Comments spanned a wide spectrum of opinion. Comments were categorized into two broad categories: (1) comments on the proposed hunting regulations, and (2) comments on RMP Trumpeter swan management. We have summarized these comments and present the Service's response to them as follows:

### **1. Swan Hunting (General)**

Several NGO and most individual comments received suggested all swan hunting should be prohibited and/or Trumpeter swan hunting should be prohibited. Comments from States, the Central and Pacific Flyway Councils, and several individuals supported the preferred alternative. Additional NGO and individual comments were received in support of the preferred alternative in Montana and Nevada, but the use of Alternative 3 (Severely restrict or close Tundra Swan Hunting) in Utah.

As previously stated, the Service supports Tundra swan hunting where and when their population status warrants such activity and Flyway management plans (including harvest management guidelines) have been developed to ensure the long term welfare of these populations. The continued growth of the western population of Tundra swans during the past several decades supports the Service position that harvest and population maintenance and enhancement are not inconsistent. The Service will continue to authorize and support Tundra swan hunting seasons that meet these guidelines.

Many comments referred to Trumpeter swans as either endangered or a threatened species and use this status as the basis for recommending that no harvest of Trumpeter swans be allowed. Trumpeter swans are not, nor have they ever been, listed as either a threatened or endangered species. The three recognized populations continue to grow steadily and their geographic range continues to expand under cooperative programs conducted throughout North America to restore this species to its historic range. These

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statements regarding status are not intended to imply that the Service considers Trumpeter swan restoration efforts complete. The Service will continue to actively promote efforts to increase Trumpeter swan numbers throughout North America and to work to establish new migratory Trumpeter swan populations when possible. The Service would not concur with the position that all harvest of this species should be precluded based on their present population status, but certainly intends to enforce strict limits on the take of Trumpeter swans in Tundra swan seasons to ensure continued growth and expansion of Trumpeter swans.

As Trumpeter swan restoration efforts continue, additional overlap between the two species in areas open to Tundra swan hunting can reasonably be expected. The Service does not believe that the occasional harvest of a Trumpeter swan in an existing Tundra swan season should preclude such seasons. Additionally, the Service does not propose to establish any hunting seasons specifically for Trumpeter swans anywhere in the United States. Rather, the Service will require monitoring data that is sufficient to determine specific locations where and when any harvest of Trumpeter swans might occur in Tundra swan seasons, and to adjust Tundra swan seasons, where necessary, to protect Trumpeter swan populations, but not individuals. Although several comments suggest that the burden for protecting Trumpeter swans in Tundra swan seasons should be placed on individual hunters the Service does not feel such an approach is either reasonable or feasible. Differentiating Tundra and Trumpeter swans in the field has been described by Patten and Heindel (1994) as "perhaps the most underrated field identification problem in North America". The Service does not feel regulations requiring hunters to make such judgements under field conditions are likely to be effective. However, the Service strongly supports and encourages hunter education efforts to improve hunter identification and to reduce unintentional Trumpeter swan harvest. Likewise, the Service does not believe that hunters should be held liable for the unintentional harvest of a Trumpeter swan. The Service believes that required harvest monitoring programs, establishment of limited quota's on Trumpeter swan harvest and Tundra swan hunting season adjustments can provide sufficient protection to expanding Trumpeter swan populations while maintaining traditional Tundra swan hunting opportunities. As previously stated by the Service, where conflicts arise, the Service will examine and deal with such situations on a case by case basis.

### 2. General swan seasons in Montana, Utah, and Nevada.

Several comments received suggested different alternative actions for different States. This was a level of refinement not considered in the draft, because waterfowl framework regulations are generally set on a Flyway basis. However, several comments suggested that the hunting seasons that existed in Montana and Nevada were acceptable for continuation, but not those in Utah. Other comments supported continuation in all three States and others opposed any continuation of the experimental seasons (these comments are addressed in 1 above).

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Numerous comments focused on the proposed season in Utah as the central issue related to effectively addressing one of the primary management concerns, improving the winter distribution of RMP Trumpeter swans. The Service concurs that this issue is central to the current controversy and also has concluded in its evaluation of the experiment that information gained to date is inconclusive with regard to the potential impacts of the limited harvest that occurred during the experimental period on redistribution and therefore, the long-term security of the population. Given the uncertainty associated with the impact of this harvest the Service proposes several changes to the general season frameworks for swans in Utah. First, the Service will further restrict the area open to swan hunting in Utah to only that portion of the Salt Lake Basin that was open during the five-year experiment lying south of the northern boundary of the Bear River Migratory Bird Refuge. Further, the Service will decrease the number of Tundra swan permits that may be issued by the State of Utah from 2,750 to 2,000. Additionally, the Service will reduce the Trumpeter swan quota allocated to Utah to 10 (from 15 ). Season date restrictions employed in the original 1995 Environmental Assessment (Bartonek et al. 1995) will be extended one week (second Sunday in December).

The Service proposes to adopt the preferred alternative in Montana and Nevada, season dates, areas and other conditions will be maintained as outlined in this proposal and the original 1995 Environmental Assessment (Bartonek et al. 1995). In response to those that propose existing season structures be extended for another five-year term period in Montana and Nevada, the Service notes that no rationale is offered for why these hunts should not be considered operational and feels that the Flyway and State recommendations for these two States for the preferred alternative should therefore be supported. The Service notes that further alterations of existing swan hunting regulations will be considered annually and that modifications based on monitoring results will be considered as a normal part of the annual regulations process. The Service wants to make it very clear that operational status does not alter the Service commitment to achieving progress toward addressing RMP Trumpeter swan management issues in the Pacific Flyway.

### **3. Harvest Monitoring**

A limited number of comments were received concerning the efficacy of the monitoring programs during the experimental period. State's authorized season frameworks must agree to monitor the swan harvest to determine species composition. The Service will require either physical examination of the harvest by biologically trained personnel or use of the bill-card measurement system (Drewien et al. 1999). Montana may use either approach to monitor the species composition of their harvest. Nevada and Utah are required to employ physical examination of harvested swans in any authorized seasons. Additionally, States must agree to promptly close seasons if authorized quotas are attained in any given year. The Service recognizes that 100% compliance to reporting requirements will not be achieved, but expects the States to make efforts to improve

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compliance. The Service encourages States to achieve the highest compliance rate possible and will reduce a subsequent years Tundra swan permit allocation by 10% for compliance rates less than 80%. Quotas, where applicable, will be based on actual reported harvests but season decisions will take into account non-compliance and crippling loss rates. Permits will be restored if compliance rates exceed 80% in a subsequent season.

### **4. RMP Trumpeter swan management.**

Many comments received pertain to RMP Trumpeter swan management. One of the most common comments was to suggest that the Service strategy for addressing the current distribution problem facing RMP Trumpeter swans in Southeast Idaho was vague and that the Service needs to develop a more detailed implementation plan to achieve the goals and objectives of the 1998 Pacific Flyway RMP Trumpeter swan Management Plan.

The Service concurs with these comments and has already formed an intra-agency working group to develop a more detailed implementation plan for Trumpeter swan management by Service programs throughout potential RMP Trumpeter swan range. Additionally, the Service will request that the Pacific Flyway Council and other affected agencies and organizations join in this planning effort and develop an integrated implementation plan to achieve the goals and objectives of the 1998 Pacific Flyway Management Plan for RMP Trumpeter Swans throughout the Pacific Flyway. The Service will request a draft Flyway implementation plan for review by the Fall of 2001 and a final plan submitted to Council by March 2002, with approval no later than July 2002.

The Service feels that two primary issues have been identified by both past management documents and comments received in response to the Draft Supplemental Environmental Assessment. These issues are: (1) the number of RMP Trumpeter swans breeding in the United States and (2) the failure of these swans and those which nest in Canada to develop migration routes away from the current concentration area in Southeastern Idaho. The Service strategy, as outlined in the preferred alternative, is to conduct direct augmentation of breeding Trumpeter swans in the States of the Pacific Flyway and to continue habitat management and hazing activities in Southeastern Idaho to achieve the goals and objectives of the 1998 RMP management Plan. The Service believes direct augmentation will provide immediate benefits with regard to numbers breeding in the United States and that these swans can be introduced in areas that have a high probability of developing an independent migratory tradition to new wintering areas, thus building a migratory tradition away from the current problem area.

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### **5. Winter translocations**

Comments received regarding continuation of the winter translocation program (1987-1996) generally fell into two categories, either support for the proposed suspension or for consideration of limited continued use. There was no strong support for the program to be continued as the main avenue to address the RMP winter distribution problem.

The Service believes that this approach can not constructively address the RMP winter distribution problem to the degree and extent necessary to achieve the goals and objectives of the 1998 RMP Trumpeter Swan Management Plan. Evaluation of efforts from 1989-1995 and 1995-2000 have shown that success of this program was limited and cost prohibitive for the level of success. However, the Service does concur with those who suggest that this approach not be categorically prohibited. The Service will strongly encourage the States of the Pacific Flyway and representatives of the other concerned agencies and organizations to work with the Service to develop guidelines for this activity throughout the Pacific Flyway. Further, the Service suggests that such guidelines be included in the requested Flyway Implementation Plan. In the interim period, until the implementation plan is developed, the Service will work with the States and other interested parties on a case by case basis in the use of this option and will consult with all interested parties in implementing this management technique.

## **VI. CONSULTATION AND COORDINATION**

This proposal is based on the previous Environmental Assessment: Proposal to establish general swan hunting seasons in parts of the Pacific Flyway for the 1995-1999 seasons (Bartonek et al. 1995). Extensive consultations were conducted in the development and implementation of this original Environmental Assessment and are summarized in that document. Since that time, Service representatives have conducted discussions in conjunction with annually scheduled Flyway meetings and at the Trumpeter Swan Society Conference, September 15-18, 1999, in Idaho Falls, Idaho, where this issue was discussed at length. Additional input has been received from numerous groups and organizations during preparation of the draft proposal, during the comment period on the draft proposal, and during two public meetings held in Idaho Falls, Idaho and Salt Lake City, Utah specifically to accept public comments on the draft proposal.

### **A. ENDANGERED SPECIES**

Consultation under Section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) has not been sought in development of this proposal but will be done during the regulatory process of developing frameworks for the 2000-2001 Migratory Game Bird Hunting Regulations. The proposed action is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of

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their critical habitats. Hunting regulations are designed, among other things, to remove or alleviate chances of conflict between seasons for migratory game birds and the protection and conservation of endangered and threatened species and their habitats. The Service's biological opinions resulting from its consultation under Section 7 are considered public documents and are available for inspection in the Division of Endangered Species and the Office of Migratory Bird Management.

### **B. NEPA**

NEPA considerations are covered by the programmatic document, ``Final Supplemental Environmental Impact Statement: Issuance of Annual Regulations Permitting the Sport Hunting of Migratory Birds (FEIS 88-14),'' filed with EPA on June 9, 1988. Notice of Availability was published in the Federal Register on June 16, 1988 (53 FR 22582). The Service's Record of Decision was published on August 18, 1988 (53 FR 31341). However, this programmatic document does not prescribe year-specific regulations; those are developed annually. The annual regulations and options are being considered in the Environmental Assessment, ``Waterfowl Hunting Regulations for 2000,'' which is available upon request.

### **C. PRINCIPAL PREPARERS**

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## **VII. REFERENCES**

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ABSTRACT

**U.S. FISH AND WILDLIFE SERVICE, DEPARTMENT OF THE INTERIOR**

**ENVIRONMENTAL ASSESSMENT**

**PROPOSAL TO ESTABLISH GENERAL SWAN HUNTING SEASONS IN**

**THE PACIFIC FLYWAY**

The purpose of this proposed action is to reconcile conflicting strategies for managing two swan species in the Pacific Flyway, namely: (1) to enhance the winter range distribution of the less abundant Rocky Mountain Population (RMP) of Trumpeter swans (*Cygnus buccinator*) by severely restricting or eliminating Tundra swan (*C. columbianus*) hunting, or both, in portions of the Pacific Flyway currently open to Tundra swan hunting, and (2) to optimize hunting of the more numerous and widely distributed Western Population (WP) of Tundra swans in the Pacific Flyway by not further restricting hunting seasons to benefit the range distribution of Trumpeter swans.

The U.S. Fish and Wildlife Service (Service) proposes a balance between these two competing strategies and various recommendations from the Pacific Flyway Council, the States of Montana, Utah, and Nevada, The Trumpeter Swan Society, and others by continuing on a operational basis a general swan season in portions of Montana and Nevada. Additionally, the Service proposes a new three-year experiment in Utah, based on further reductions in the swan season that would allow the taking of any species of swan (*Cygnus* sp.) subject to: (1) a limited, but biologically acceptable, quota on the take of Trumpeter swans, and (2) modification of the already limited take and restricted seasons on Tundra swans to enhance the likelihood that Trumpeter swans would be successful in expanding their winter range, and (3) a program to monitor the effectiveness of this action. The Service will continue with its participation in the State-Federal effort to enhance the winter-range distribution of Trumpeter swans.

Principal alternatives considered were:

**Alternative 1 (Preferred Alternative) - Allow a limited take of Trumpeter swans during restructured swan hunting seasons:** The Service would establish an operational approach to general swan hunting in Montana and Nevada using the general season guidelines employed during the five-year experimental season conducted in those States (1995-1999). Additionally, the Service would establish a new experimental general swan season in Utah for the 2000-2002 seasons. The season in Utah would be modified from the general guidelines employed in the experimental season (1995-1999) by reducing the number of Tundra swan permits available to hunters to 2000 (from 2,750); reduction of the Trumpeter

swan quota in the season to 10 (from 15) and by increasing the area closed to all swan hunting by including all lands north of the northern-most boundary of the Bear River Migratory Bird Refuge. The Service will extend the season ending date in Utah until the second Sunday in December. The general swan hunting seasons would continue the approach adopted during the previous five-year experiment of allowing all swan species to be harvested subject to very strict limits (15: 10 Utah and 5 Nevada) on the number of Trumpeter swans that could be taken during any year. The Service would continue to cooperate with the Pacific Flyway Council and States in efforts to benefit winter-range distribution of Trumpeter swans.

**Alternative 2 - No action:** The *status quo* prior to 1994 would be maintained. The Service would continue to establish, open seasons on Tundra swans in all of Utah and parts of Montana and Nevada, while maintaining a "closed season" on Trumpeter swans. The Service would continue to cooperate with the Pacific Flyway Council and States in efforts to benefit winter-range distribution of Trumpeter swans.

**Alternative 3 - Severely restrict or close Tundra swan hunting:** The Service would either severely restrict areas and times where Tundra swan hunting was allowed or not allow such seasons, or both, in those parts of Montana, Utah, or Nevada that are likely to be used by Trumpeter swans should range expansion efforts prove successful. The Service would continue to cooperate with the Pacific Flyway Council and States in efforts to benefit winter-range distribution of Trumpeter swans.

**Alternative 4 - Cease active Trumpeter swan range expansion effort:** The Service would cease its participation in cooperative efforts by the Pacific Flyway Council and States to enhance the winter distribution of RMP Trumpeter swans. The season on Trumpeter swans would remain "closed," but Tundra swan hunting could become more restrictive if it was deemed appropriate to improve survival rates of pioneering Trumpeter swans.

Harvest and hunter information would be reviewed annually. Issuance of this and future season regulations would follow procedures found in SEIS 88, Final Supplemental Environmental Impact Statement: Issuance of Annual Regulations Permitting the Sport Hunting of Migratory Birds.

APPENDIX A